**PATENT** 

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Starner, et al.

Serial No.: 09/927,193

Filed: 8/10/01

For: A System and Method for Capturing an Image

## INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents Washington, D.C. 20231

Sir:

This information disclosure statement is filed in accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, and specifically:

		(within Th	7 CFR 1.97(b), or the control of the
		under 37	7 CFR 1.97(c) together with either a: Statement Under 37 C.F.R. 1.97(e), or a \$180.00 fee under 37 CFR 1.17(p), or (After the CFR 1.97(b) time period, but before the final office action or notice of allowance, whichever occurs first)
		under 37	7 CFR 1.97(d) together with a: Statement under 37 CFR 1.97(e), and a \$180.00 petition fee set forth in 37 CFR 1.17(p). (Filed after final office action or notice of allowance, whichever occurs first, but before payment of the issue fee)
	y of this	applicat	ck in the amount of \$ Please charge \$ to deposit account . At any time during the cion, please charge any fees required to Deposit Account pursuant to 37 CFR 1.25. The quested to credit any overpayment to Deposit Account No. 20-0778.
⅓	patents, be mater	publication public	nit herewith Form PTO 1449 - Information Disclosure Citation together with copies of one or other information of which applicant(s) are aware, which applicant(s) believe(s) may or may not examination of this application and for which there may be a duty to disclose in accordance with 37 uired by 37 C.F.R. §1.98(a), a legible copy of each document is provided.
3	other for 37 CFR is cited language	reign lang 1.56(c) n in a sear e version	ation of the relevance of foreign language patents, foreign language publications and guage information listed on PTO Form 1449, as presently understood by the individual(s) designated in nost knowledgeable about the content is given on the attached sheet, or where a foreign language patent ch report or other action by a foreign patent office in a counterpart foreign application, an English of the search report or action which indicates the degree of relevance found by the foreign office is listed 1449 and is enclosed herewith.

The following rights are reserved by the Applicant(s): the right to establish the patentability of the claimed invention over any of the listed documents should they be applied as reference, and/or the right to prove that some of these documents may not be prior art, and/or the right to prove that some of these documents may not be enabling for the teachings they purport to offer.

This statement should not be construed as a representation that an exhaustive search has been made, or that information more material to the examination of the present application does not exist. The Examiner is specifically requested not to rely solely on the materials submitted herewith. The Examiner is requested to conduct an independent and thorough review of the documents, and to form independent opinions as to their significance.

It should be noted that applicants comply with their duty of candor since the applicants disclose a document Thad Starner, Wearable Computing and Contextual Awareness, PhD thesis, MIT Media Laboratory, April 30, 1999 http://www.gvu.gatech.edu/ccg/publications/starner-phd/ and the document is cumulative of the document L. Baum, An inequality and associated maximization technique in statistical estimation of probabilistic functions of Markov processes. Inequalities, 3:1-8, 1972. A document H. Hefter, V. Homberg, and H. J. Freund, Quantitative analysis of voluntary and involuntary motor phenomena in parkinson's disease, In H. Przuntek and P. Riederer, editors, Early Diagnosis and Preventative Therapy in Parkinson's Disease. Springer-Verlag Wien, New York, NY, 1989 is cumulative of the document R. J. Elble and W. C. Koller, Tremor, Johns Hopkins UP, Baltimore, MD. 1990. The document Thad Starner, Wearable Computing and Contextual Awareness. PhD thesis, MIT Media Laboratory, April 30, 1999 http://www.gvu.gatech.edu/ccg/publications/starnerphd/ is cumulative of the document X. Huang, Y. Ariki, and M.A. Jack, Hidden Markov Models for Speech Recognition, Edinburgh University Press, 1990. The document Quinn, Niall, Progress in functional neurosurgery for Parkinson's Disease, Lancet 1999; 354 (9191): 1658-1659, Nov 13 1999 is cumulative of the document J. Hubble, K. Busenbark and S. Wilkinson. Deep brain stimulation for essential tremor, In Neurology, volume 46, pages 1150-1153, 1996. The document C. Kidd and K. Lyons, Widespread Easy and Subtle Tracking with Wireless Identification Networkless Devices -- WEST WIND: an Environmental Tracking System, October 2000 is cumulative of the document C. Kidd and K. Lyons, West Wind, In Submitted to ISWC, Atlanta, GA, October 2000. The document Thad Starner, Wearable Computing and Contextual Awareness, PhD thesis, MIT Media Laboratory. April 30, 1999 http://www.gvu.gatech.edu/ccg/publications/starner-phd/ is cumulative of the document L. R. Rabiner and B. H. Juang, An introduction to hidden Markov models. IEEE ASSP Magazine, pages 4-16, January 1986. The document Yasunobu Yamauchi, Gesture-Based Ping-Pong Game Using Real-Time Depth-Image Input Device, International Conference on Computer Graphics and Interactive Techniques, New Orleans, LA, July 23-28 is cumulative of the document Toshiba, Toshiba's motion processor recognizes gestures in real time, Available at http://www.toshiba.com/news/980715.htm, July 1998. The document Thad Starner, Wearable Computing and Contextual Awareness. PhD thesis, MIT Media Laboratory, April 30, 1999 http://www.gvu.gatech.edu/ccg/publications/starner-phd/ is cumulative of the document Charles W. Therrien, "Decision Estimation and Classification," John Wiley and Sons, Inc., 1989. The document Thad Starner, Wearable Computing and Contextual Awareness, PhD thesis, MIT Media Laboratory, April 30, 1999 http://www.gvu.gatech.edu/ccg/publications/starner-phd/ is cumulative of the document K. P. Horn Berthold, Robot Vision, THE MIT Press, 1986.

It is requested that the information disclosed herein be made of record in this application and that the Examiner initial and return a copy of the enclosed PTO-1449 to indicate the documents have been considered.

Respectfully Submitted,

& RISLEY, L.L.P.

THOMAS, KAYDEN, HORSTEMEYER

\_\_\_

By:

Scott A. Horstemeyer; Reg. No/34,18

100 Galleria Parkway, Suite 1750 Atlanta, Georgia 30339-5948 770-933-9500

## **CERTIFIED MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as "First Class Mail," in an envelope addressed to: Assistant Commissioner of Patents and Trademarks, Washington, D.C.

20231 on 11/30/01

Form PTO-1449

## INFORMATION DISCLOSURE CITATION

Attorney Docket No. 062004-1800

Serial No. 09/927,193

**Applicant** Starner, et al.

Filing Date

TANK		West everal sheet	s if necessary)		Filing Date <b>8/10/01</b>		Grou TBA	-
1,	N TOAPF	MARIN	U.S. PA	TENT DOCUMEN	rs			
Examiner \ Initals	Item	Document Number	Date	Nam	e	Class	Subclass	Filing Dat If Appropria
	8).	4,988,981	1/29/91	Zimmerman, et al.		340	709	
C 3 1 2001	<b>是</b>	5,047,952	9/10/91	Kramer, et al.		364	513.5	
	E.	5,168,531	12/01/92	Sigel		382	48	
MANENADEN	D.	5,252,951	10/12/93	Tannenbaum, et al.		345	156	
···	E.	5,319,747	6/7/94	Gerrissen, et al.		395	155	
	F.	5,454,043	9/26/95	Freeman		382	168	
	G.	5,581,276	12/3/96	Cipolla, et al.		345	156	
	H.	5,594,469	1/14/97	Freeman, et al.		345	158	
	I.	5,699,441	12/16/97	Sagawa, et al.		382	100	
	J.	5,767,842	6/16/98	Korth		345	168	
	K.	5,809,267	9/15/98	Moran, et al.		395	358	
	L.	5,875,257	2/23/99	Marrin, et al.		382	107	
	M.	5,887,069	3/23/99	Sakou, et al.		382	100	
	N.	5,914,701	6/22/99	Gersheneld, et al.	<del> </del>	345	156	
	O.	6,002,808	12/14/99	Freeman		382	288	
	P.	6,035,274	3/7/00	Kramer, et al.		704	270	
	Q.	6,043,805	3/28/00	Hsieh		345	158	
	R.	6,049,327	4/11/00	Walker, et al.		345	158	
	S.	6,072,494	6/26/00	Nguyen		345	358	
	T.	6,075,895	6/13/00	Qiao, et al.		382	218	
	U.	6,111,580	8/29/00	Kazama, et al.	·	345	358	
	V.	6,116,907	9/12/00	Baker, et al.		434	156	
	W.	6,128,003	10/3/00	Smith, et al.		345	157	
	X.	6,147,678	11/14/00	Kumar, et al.		345	158	
	Y.	6,151,208	11/21/00	Barlett	· _ · . · . · . · · · · · · · · · · · ·	361	683	
	Z.	6,160,899	12/12/00	Lee, et al.		382	103	
	AA.	6,181,343	1/30/01	Lyons		345	358	
	BB.	6,181,778	1/30/01	Ohki, et al.	<del></del>	379	52	1
	CC.	6,191,773	2/20/01	Maruno, et al.	<del></del>	345	158	
	DD.	6,215,890	4/10/01	Matsuo, et al.		382	103	
	EE.	6,222,465	4/24/01	Kumar, et al.	<del></del>	341	20	
	FF.	6,244,873	6/12/01	Hill, et al.		434	236	

		•	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)
314	E V	GG CON	H. Hefter, V. Homberg, and H. J. Freund, Quantitative analysis of voluntary and involuntary motor phenomena in parkinson's disease, In. H. Przuntek and P. Riederer, editors, Early Diagnosis and Preventative Therapy in Parkinson's Disease. Springer-Verlag Wien, New York, NY 1989.
UES	A CO	HHM	S. Young, HTK: Hidden Markov Model Toolkit V1.5. Cambridge Univ. Eng. Dept. Speech Group and Entropic Research Lab, Inc., Washington, DC 1993.
D. C.	° 720	II of	D. M. Roy, M. Panayi, R. Erenshteyn, R. Foulds, and R. Fawcus. Gestural human-machine interaction for people with severe speech and motor impairment due to cerebral palsy. In <i>Conference on Human Factors in Computing Systems</i> , Boston, MA, April 1994.
01	70	8) 1).	Thad Starner, Steve Mann, Bradley Rhodes, Jeffrey Lavine, Jennifer Healey, Dane Kirsch, Rosalind W. Picard, Alex Pentland, Augmented Reality Through Wearable Computing. 1997.
DEC 3	• 2000	SKK.	Thad Starner, Joshua Weaver and Alex Pentland, A Wearable Computer-Based American Sign Language Recogniser, 1:241-250, Springer-Verlag London Ltd. Personal Technologies (1997).
الاطر پ	I FM A CY	LL.	Teodorescu, Horia-Nicolai; Mlynek, Daniel; Kandel, Abraham, Ropota, Ion; Teodorescu, Cornelia; Posa, Constantin; Brezulianu, Adrian; Ciorap, Radu. Analysis of chaotic movements and fuzzy assessment of hands tremor in rehabilitation. The 1998 2nd International Conference on knowledge-Based Intelligent Electronic Systems (KES '98), Adelaide, Aust, 04/21-/4/23/98.
		MM.	Yasounobu Yamauchi, Gesture-Based Ping-Pong Game Using Real-Time Depth-Image Input Device, International Conference on Computer Graphics and Interactive Techniques, New Orleans, LA, July 23-28, 1996.
	i	NN.	T. Starner, J. Weaver, and A. Pentland. Real-time American Sign Language recognition using desk and wearable computer-based video. <i>IEEE Trans. Patt. Analy. And Mach. Intell.</i> , 20(12), December 1998.
		00.	Lauk, M; Timmer, J; Luecking, CH; Honerkamp, J; Deuschl, G AF. Software for recording and analysis of huma tremor. Computer Methods and Programs in Biomedicine [Comput Methods Prog Biomed], vol. 60, no. 1, pp. 6577, 1999.
		PP.	I. Essa. Ubiquitous sensing for smart and aware environments. In DARPA/NIST/NSF Workshop on Smart Environments, Atlanta, GA, July 1999.
		QQ.	C. Kidd, R. Orr, G. Abowd, C. Atkeson, I. Essa, B. MacIntyre, E. Mynatt, T. Starner, and W. Newstetter. The aware home: A living laboratory for ubiquitous computing research. In Second International Workshop on Cooperative Buildings, 1999.
		RR.	Thad Starner, Wearable Computing and Contextual Awareness, PhD thesis, MIT Media Laboratory, April 30, 1999, http://www.gvu.gatech.edu/ccg/publications/starner-phd.
		SS.	Quinn, Niall, Progress in functional neurosurgery for Parkinson's Disease, Lancet 1999; 354 (9191)' 1658-1659. Nov. 13, 1999
		TT.	R. Orr and G. Abowd. The smart floor: A mechanism for natural user identification and tracking. In Conference on Human Factors in Computing Systems. The Hague, Netherlands, April 2000.
		UU.	C. Kidd and K. Lyons, Widespread Easy and Subtle Tracking with Wireless Identification Networkless Devices - WEST WIND: an Environmental Tracking System, October 2000
			citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in dered. Include copy of this form with next communication to the applicant.
EXAMI			